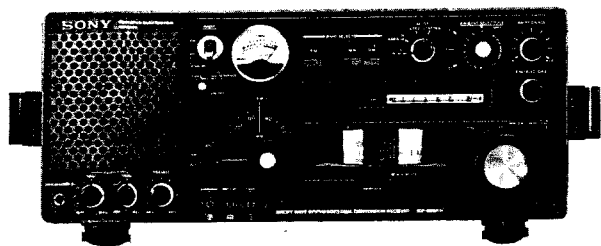


FM/AM MULTI BAND RECEIVER

ICF-6800W

**OPERATING INSTRUCTIONS** page 2

Please read this operating manual thoroughly before operating this high quality electronic unit, so that you can obtain the maximum of enjoyment from it.

This manual should be retained for future reference and used to answer your operational questions as they arise.

MODE D'EMPLOI page 2, 3, 16

Avant toute opération, lire attentivement ce mode d'emploi.
Conserver ce manuel pour toute référence ultérieure.

BEDIENUNGSANLEITUNG Seite 2, 3, 28

Vor Inbetriebnahme lesen Sie bitte diese Bedienungsanleitung sorgfältig durch.
Bewahren Sie diese Anleitung zum späteren Nachschlagen gut auf.

MANUAL DE INSTRUCCIONES página 2, 3, 40

Antes de usar el aparato, lea usted este manual detenidamente.
Conserve este manual para futuras referencias.

GEBRUIKSAANWIJZING blz. 2, 3, 52

Lees de gebruiksaanwijzing aandachtig door alvorens het apparaat in gebruik te nemen en bewaar de gebruiksaanwijzing voor eventuele naslag naderhand.

BRUKSANVISNING Sidan 2, 3, 64

Läs igenom bruksanvisningen noggrant innan Ni använder receiveern.
Bevara bruksanvisningen för framtida bruk.

or the customers in the U.S.A.

OWNER'S RECORD

The model and serial numbers are located at the rear.
Record the serial number in the space provided below. Refer to
them whenever you call upon your Sony dealer regarding this pro-
duct.

Model No. ICF-6800W

Serial No. _____

English

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français

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WARNING

- To prevent fire or shock hazard, do not expose the set to rain or moisture.
- To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

Español

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These photos show the non-Canadian model.

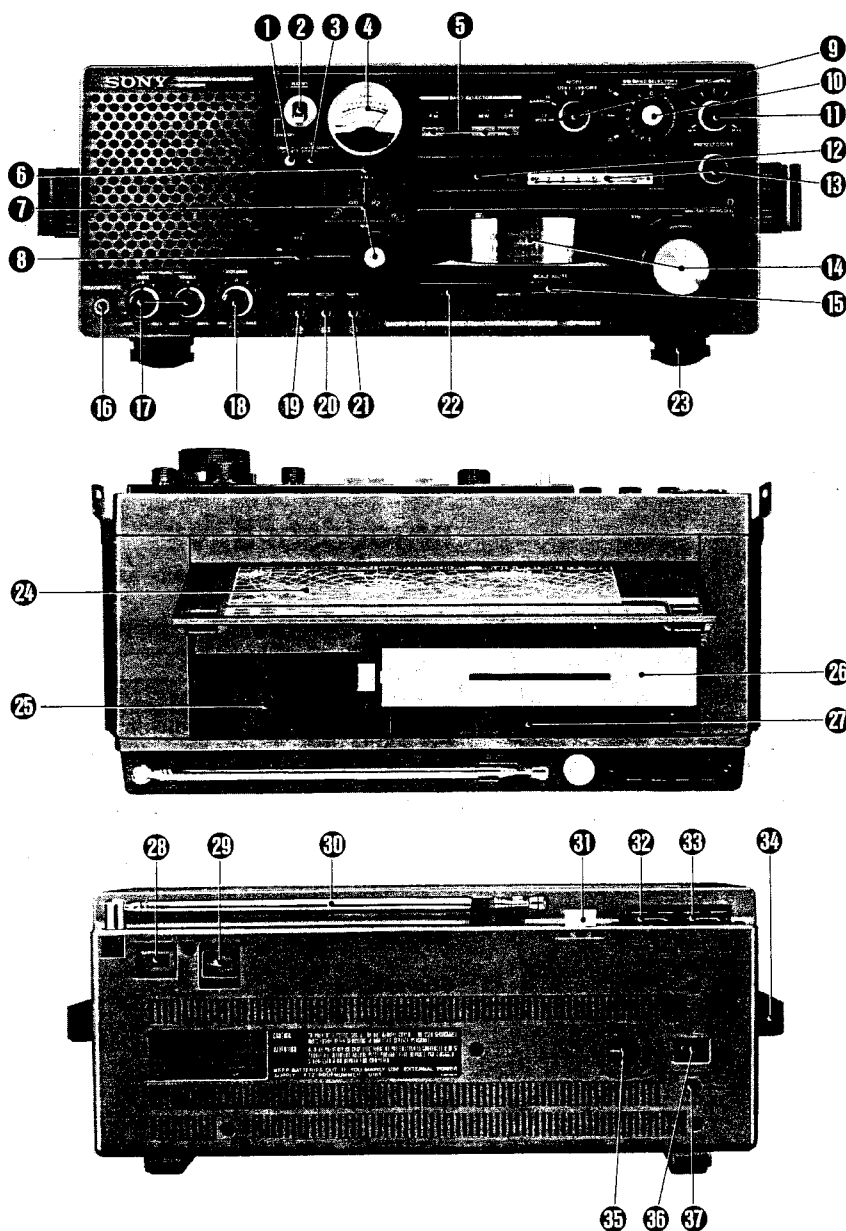
Ces photos montrent le modèle non-canadien.

Die Photos zeigen die Ausführungen außer für Kanada an.

Estas fotos muestran el modelo no-canadiense.

Onderstaande modelfoto's tonen niet het Canadese model.

Dessa fotografier visar den icke kanadensiska modellen.



This instruction manual covers three models: the models for the USA, for Canada, and for other countries. Any difference between the models is clearly described in the text.

FEATURES

- The Sony ICF-6800W offers you listening pleasure in the FM (frequency modulation), MW ("standard" broadcast) and 29 SW (short wave) bands including those stations operating on SSB (single sideband) and CW (International Morse Code).
- Crystal-controlled PLL synthesizer, for stable SW reception.
- SW preselector circuit to obtain maximum sensitivity in the desired SW band.
- RF attenuator to reduce interference during SW reception with an external SW antenna.
- Fast and simple station selection for SW and MW reception with an electronic digital readout on the frequency counter.
- Separate tuning knob and Dial Scale for FM reception.
- Wide or narrow selectivity can be chosen for optimum reception of the SW or MW broadcasts.
- Large sized tuning/battery indicator, dial scales, and SW pre-selector scale are illuminated in ac operation. In dc operation, they will light for about 20 seconds by pressing the dial light button, then will go out automatically.
- Functional layout of controls and jacks at the front panel for easy operation.
- Convenient light for note-taking in the dark.
- Three different power sources: house current, batteries, and 12 V car battery.

PRECAUTIONS

● **Canadian model:** Operate the set only on 120 V ac. For use in other countries on 110, 220, or 240 V ac, consult your nearest Sony service station or Sony dealer in the country where the set will be used.

● **Other countries:** Before connecting the set to a wall outlet, check that the voltage selector is set to your local power source. If not, the set may be damaged.

For battery operation, 9 V dc is required.

For ac operation, use the supplied ac power cord; do not use any other type.

For car battery operation, use the car battery cord recommended for this set. Do not use any other car battery cord.

● The nameplate indicating operating voltage, power consumption, etc. is located on the rear exterior.

● The set is not disconnected from the ac power source (mains) as long as it is connected to the wall outlet, even if the set itself has been turned off.

● Unplug the set from the wall outlet when it is not to be used for an extended period of time. To disconnect the cord, pull it out by grasping the plug. Never pull it by the cord.

● When the set is not to be used for a long period of time or is to be operated extensively on other power sources, remove the batteries to avoid set damage from battery leakage.

● Do not install the set in a location near heat sources such as radiators or airducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration, or shock.

● Allow adequate air circulation to prevent internal heat build-up. Do not place the set on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.

● Should any liquid or solid object fall into the set, unplug the set and remove the batteries, and have the set checked by qualified personnel before operating it any further.

● When there is lightning and you are using an external antenna, immediately disconnect the ac power cord (if connected) from the wall outlet. Never touch the antenna wire when there is lightning storm.

● Never connect a ground wire to a gas pipe.

If you have any question or problem concerning your set that is not covered in this manual, please consult your nearest Sony dealer.

POWER SOURCES

HOUSE CURRENT

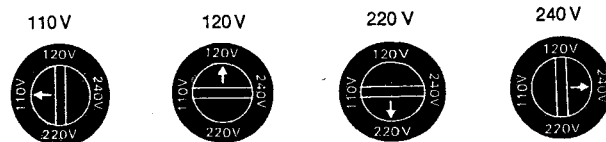
Canadian model: Operate the set only on 120 V ac, 50/60 Hz. This model includes no user-serviceable voltage selector inside. Consult your nearest Sony service station or Sony dealer for different voltage adaptation: 110 (99–121)*, 220 (198–242), or 240 (216–264) V ac.

Other countries: The set operates on ac power line voltage of either 110 (99–121)*, 120 (108–132), 220 (198–242), or 240 (216–264) V ac, 50/60 Hz.

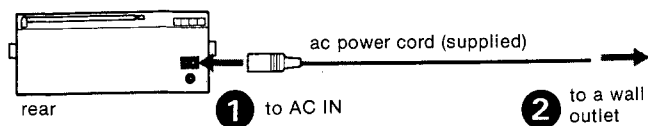
* Range of voltage allowable shown in parentheses.

Notice: Before connecting your set to a wall outlet, be sure that the voltage selector located at the rear is correctly turned to your local power line voltage.

If necessary, turn the selector with a coin or similar object so that the arrow mark of the selector points to the proper voltage figure.



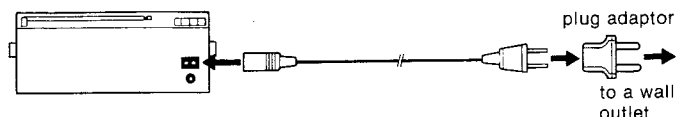
After checking the operating voltage, connect the supplied ac power cord as illustrated.



- When the ac power cord is connected to the AC IN socket, the internal batteries (if present) are automatically disconnected.

Notice for the customers in U.S.A.

For use in U.S.A. on 120 V ac, be sure that the voltage selector is set to 120 V. For use in other countries on 220 V ac, set the voltage selector to 220 V and use the commercially available plug adaptor (optional) as illustrated.



Notice for the customers in the United Kingdom

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral

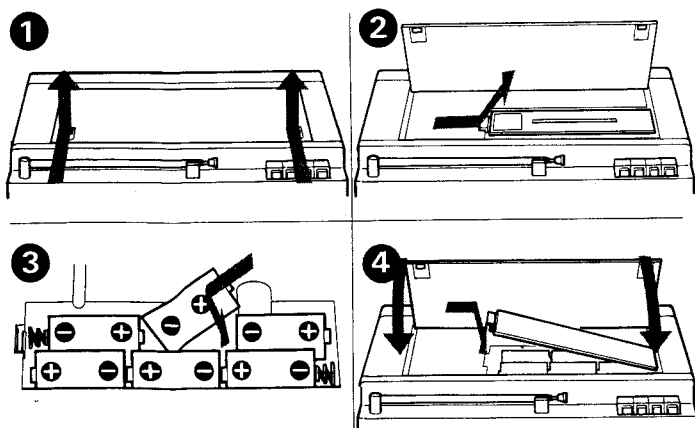
Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured marking identifying the terminals in your plug, proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black. The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

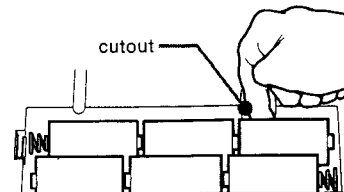
BATTERIES

Battery installation



- 1 Press the two tabs on the top and open the lid.
 - The lid will lock with a click.
- 2 Remove the battery compartment cover.
- 3 Insert six batteries size D (IEC designation R20) with correct polarity as illustrated.
 - The flat ends $\ominus$ of the batteries press against the springs.
- 4 Replace the cover and close the lid.

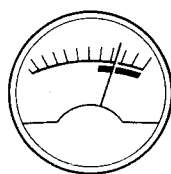
- The set cannot be operated on the internal batteries when either the ac power cord or car battery cord is connected to the set.
- When the set is not to be used for a long period of time or is to be operated extensively on other power sources, remove the batteries to avoid set damage caused by battery leakage and corrosion.
- The cutout aids in removing the batteries.



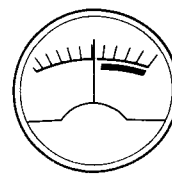
To check battery condition

While operating the set, keep the LIGHT/BATT button pressed and observe the pointer of the TUNING/BATT INDICATOR. If the pointer stays out of the green zone, replace all the batteries with fresh new ones.

- The battery check should be made on the band to be used and/or in the operating mode to be used.
- SW reception consumes more battery than the other bands.



good battery condition

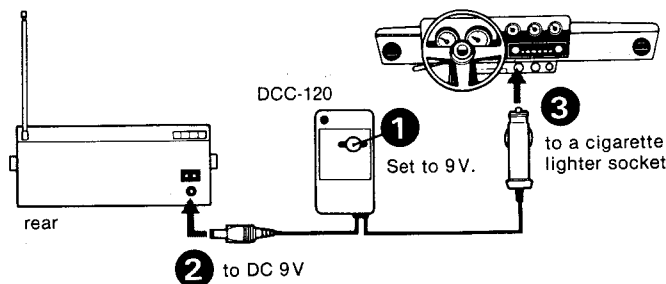


Replace the batteries.

12V CAR BATTERY

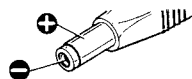
Use the Sony car battery cord DCC-120 (optional), and connect the radio DC 9V jack to the cigarette lighter socket of a car. For further details, refer to the instruction manual of the DCC-120.

- Before connecting, be sure to set the output voltage of the car battery cord to 9V.



- When the car battery cord is connected to the DC 9V jack, the internal batteries (if present) are automatically disconnected.
- Reception may be affected by ignition noise while the engine is in operation.

Note: Use only a car battery cord manufactured by Sony. Polarity of the plugs of other manufacturers may be different.



LOCATION AND FUNCTION OF CONTROLS

Refer to photos on page 3.

Key marks on the front panel

- for FM reception
- for MW reception
- for SW (including SSB/CW) reception

No mark means for every band

① LIGHT/BATT (light/battery check) button: While in battery operation, press this button to check the battery condition (see page 5). During dc operation, when this button is pressed, the TUNING/BATT INDICATOR, the dial scales and the SW preselector scale are illuminated for about 20 seconds, then the light goes out automatically.

② POWER switch (for the USA and Canadian model) RADIO switch (for other countries)

Set to ON to turn on the radio and to OFF (for the USA and Canadian model) or to STANDBY (for other countries) to turn off. In ac operation, when you set the switch to ON, the TUNING/BATT INDICATOR, the dial scales and the SW preselector scale are illuminated.

③ AM FREQUENCY DISPLAY button: While MW or SW (including SSB/CW) reception, press this button to turn off the MW/SW frequency counter. The battery life is longer with the counter off. To turn on the counter again, press the button.

④ TUNING/BATT INDICATOR (tuning/battery indicator): Indicates the tuning condition while the radio is on, and the battery condition while the LIGHT/BATT button is pressed.

⑤ BAND SELECTOR: Depress and lock the desired band button before tuning. The locked button will be released by pressing another button.

FM: For FM reception.

MW: For MW reception.

SW: For SW (including SSB/CW) reception.

⑥ FM indicator: Lights up when the FM BAND SELECTOR button is depressed.

⑦ FM Tuning Knob and FM Dial Scale: Used only for FM reception.

⑧ AFC (automatic frequency control) switch: Used for FM reception. Set to OFF and tune in the desired FM station precisely and then set it to ON. This assures stable FM reception.

⑨ MODE Selector: In MW or SW (including SSB/CW) reception, choose the desired mode before tuning.

WIDE: For MW or ordinary SW broadcast reception under good conditions. It will provide better sound quality.

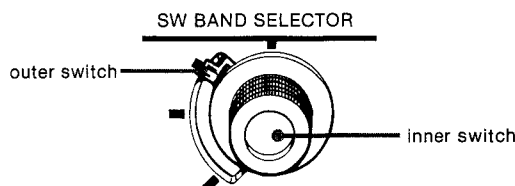
NARROW: Use this position when noise and interference occur in MW or ordinary SW broadcast reception. Quieter reception can be obtained, since the received bandwidth becomes narrower.

USB: For upper sideband signal reception.

LSB/CW: For lower sideband signal and CW (code) signal reception.

⑩ SW BAND SELECTOR: Choose the desired SW band (MHz) with these switches. Choose 0, 10 or 20 with the outer switch and 0–9 with the inner switch. The sum of the numbers of the two switches is the receiving band number (1–29 MHz).

- The inner and outer switches do not interlock 0 simultaneously.



⑪ AM RF GAIN control: Used for MW and SW (including SSB/CW) reception. Usually set this control to MAX. When receiving a very strong station such as a local station and the sound is distorted, turn this control counterclockwise until distortion-free sound can be obtained.

- If the control is turned counterclockwise under normal receiving conditions, the sound may not come on or be too low.

⑫ MW/SW frequency counter: In MW or SW (including SSB/CW) reception, you can read the received frequency at a glance by the figures on this counter. The frequency is displayed in kHz. For SW reception, choose the desired SW band (1–29 MHz) on left one or two digits with the SW BAND SELECTOR and the right three-digits with the MW/SW TUNING DIAL.

⑬ SW PRESELECTOR knob and SW preselector scale: Used for SW (including SSB/CW) reception. Before tuning, turn the knob and set the pointer of the scale approximately to the desired SW band (MHz) to adjust the tuning circuit for optimum sensitivity on that band. After tuning, adjust the knob accurately for optimum reception.

⑭ MW/SW TUNING DIAL and MW/SW dial scale: Used for MW or SW (including SSB/CW) reception. Turn to select the frequency of the desired station, referring to the dial scale and/or the MW/SW frequency counter, while seeing that the pointer of the TUNING/BATT INDICATOR swings to the right as far as possible. For SW reception, first select the desired SW band (MHz) with the SW BAND SELECTOR, and then select 0–999 kHz with this knob.

⑮ SCALE ADJ (scale adjust) knob: Used for correcting the MW/SW dial calibration. If the frequency indicated on the MW/SW dial scale does not agree with that on the frequency counter, turn this knob to adjust the pointer of the dial scale to the correct frequency.

⑯ HEADPHONES jack: For listening with 8-ohm stereo or monaural headphones. The sound provided with the headphones is monaural. When the headphones are plugged in, the speaker and the earphone (if connected) are automatically disconnected.

⑰ TREBLE and BASS TONE controls: Turn clockwise for more treble or bass.

⑱ VOLUME control: Turn clockwise for more volume.

⑳ EARPONE jack: For listening with an earphone. When the earphone is plugged in, the speaker is automatically disconnected.

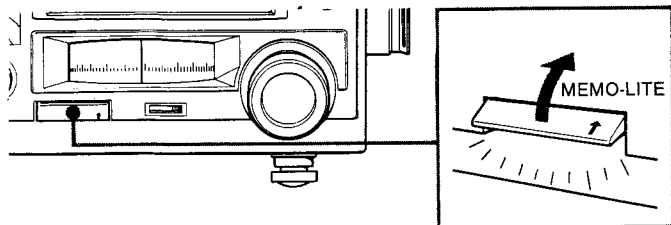
- If the headphones are connected to the HEADPHONES jack, no sound will be heard from the earphone.

⑳ **REC OUT (recording output) jack:** For recording radio programs with a tape recorder. Connect this jack to the microphone input jack of the tape recorder with a suitable cord. In the case of a Sony tape recorder, use the Sony connecting cord RK-69A (optional).

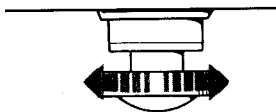
- The volume of the radio has no effect on the recording.

㉑ **TIMER input jack:** For turning the radio on or off automatically at the desired time using a suitable timer. Such timers are not currently produced by Sony.

㉒ **MEMO-LITE (convenient light):** While power is on, lift the cover, and the light will illuminate around the front end of the set. This light is convenient for taking or reading a note in the dark.



㉓ **Feet:** Turn the two feet to the left to tilt the set slightly upward. The adjustable range is approximately 10 mm.



㉔ **Lid:** Open to insert the batteries by pressing the two tabs in the direction of the triangular marks on the tabs.

㉕ **Accessory compartment:** Store the cap of the UHF-type connector, earphone, etc.

Caution: Do not store any metallic object such as the antenna terminal pin, as it may cause a short-circuit if it falls into the battery compartment.

㉖ **Battery compartment cover**

㉗ **Battery compartment:** See page 5.

㉘ **SW-ANT (SW antenna) selector:** In SW (including SSB/CW) reception, choose the position according to the antenna to be used. Set the selector to ROD for using the telescopic antenna, or to EXT for using an external SW antenna.

㉙ **RF ATT (RF attenuator):** Operates during SW reception with an external SW antenna. Normally, set it to DX. If the sound is distorted while receiving a very strong signal, or if interference occurs, set it to LOCAL. Distortion or interference will then be reduced.

㉚ **Telescopic antenna:** Used for FM and SW (including SSB/CW) reception. For MW reception, the built-in ferrite bar antenna is used.

㉛ **UHF-type connector:** For connecting an external SW antenna equipped with a UHF-type connector. See page 11.

㉜ **SW antenna terminals:** For connecting an external antenna for SW reception (including SSB/CW signal reception). The Υ terminal is for antenna and the --- terminal for ground. See page 11.

㉝ **MW antenna terminals:** For connecting an external antenna for MW reception. The Υ terminal is for antenna and the --- terminal for ground. See page 11.

㉞ **Handles:** For carrying the radio.

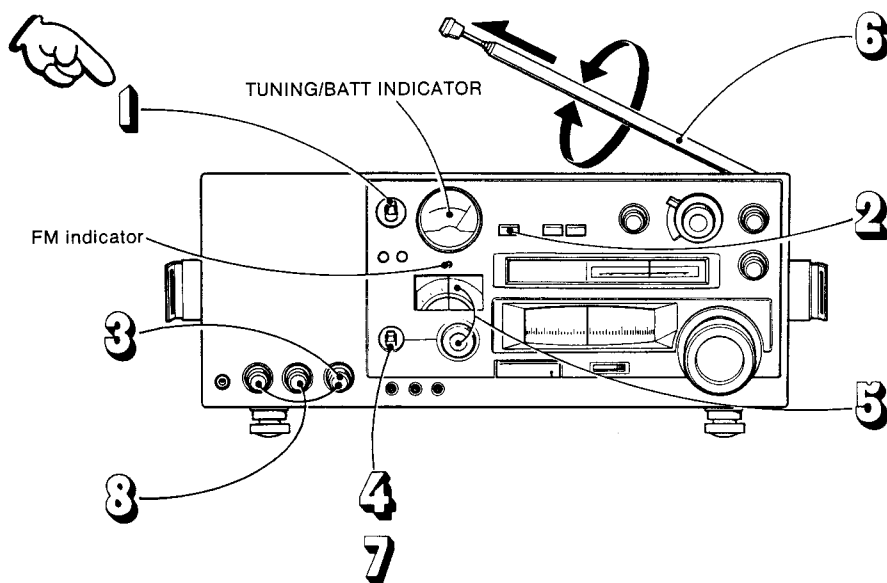
㉟ **Voltage selector:** See page 4.
(The Canadian model includes the selector inside.)

㊱ **AC IN (ac input) socket:** For operation on house current. See page 5.

㊲ **DC 9 V (dc input) jack:** For operation from a car battery. See page 5.

FM RECEPTION

The numbers in the illustration refer to the sequence of operations.



1 For the USA and Canadian model: Set the POWER switch to ON.

For other countries: Set the RADIO switch to ON.

2 Depress the FM button. The FM indicator will light up.

3 Turn the VOLUME control clockwise a little to get sound.

4 Set the AFC switch to OFF.

5 Turn the FM tuning knob to tune in the desired station, observing the FM dial scale, seeing that the pointer of the TUNING/BATT INDICATOR swings to the right as far as possible.

6 Pull out the telescopic antenna and adjust its length, direction, and angle for the best reception.

7 Set the AFC switch to ON.

- If an extremely powerful station is adjacent to the desired station, tuning may be affected when the AFC switch is ON. In this case, return the switch to OFF.

8 Adjust the volume and tone to your preference.

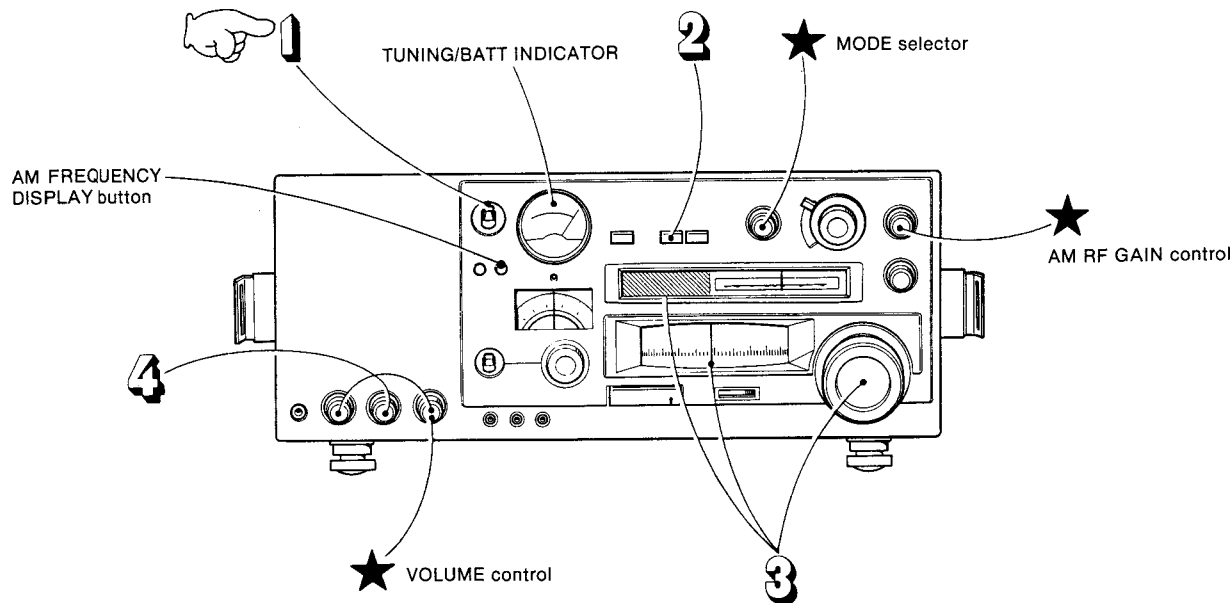
- After using, turn the radio off as follows:

For the USA and Canadian model: Set the POWER switch to OFF.

For other countries: Set the RADIO switch to STANDBY.

MW RECEPTION

The numbers in the illustration refer to the sequence of operations.



★ Make the following preparations with the ★ marked controls.

- Turn the VOLUME control clockwise a little to get sound.
- Set the MODE selector to WIDE.
- Turn the AM RF GAIN control fully clockwise to MAX.

1 For the USA and Canadian model: Set the POWER switch to ON.
For other countries: Set the RADIO switch to ON.

2 Depress the MW button. The MW/SW frequency counter will be turned on.

3 Turn the MW/SW TUNING DIAL to tune in the desired station, observing the MW/SW dial scale and/or the digital display of the MW/SW frequency counter, seeing that the pointer of the TUNING/BATT INDICATOR swings to the right as far as possible.

4 Adjust the volume and tone to your preference.

• If noise and interference occur, set the MODE selector to NARROW.

• When the receiving station signal is too strong and the sound is distorted, turn the AM RF GAIN control counterclockwise until distortion-free sound can be obtained. If this control is turned counterclockwise for normal reception, the sound may not come on or be too low.

• For MW reception, the built-in ferrite bar antenna is used. Since the antenna is directional, rotate the set horizontally for optimum reception, if necessary. If reception is unsatisfactory with this antenna, connect an antenna wire, and a ground wire if necessary, to the MW antenna terminals. For external antenna connection, see page 11.

• After tuning, to avoid excessive battery wear, press the AM FREQUENCY DISPLAY button. To turn on the frequency counter again, press this button.

• After using, turn the radio off as follows:

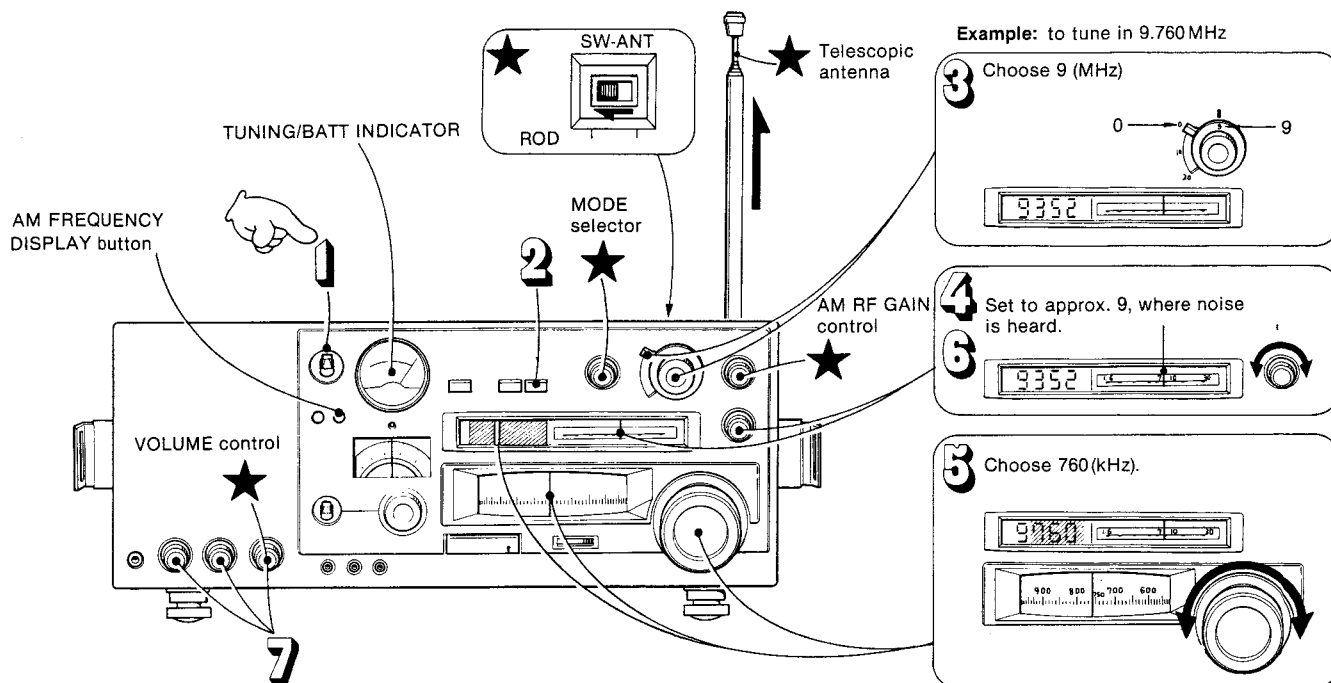
For the USA and Canadian model: Set the POWER switch to OFF.

For other countries: Set the RADIO switch to STANDBY.

SW AND SSB/CW RECEPTION

ORDINARY SW RECEPTION

The numbers in the illustration refer to the sequence of operations.



- ★ Make the following preparations with the ★ marked controls.
- Turn the VOLUME control clockwise a little to get sound.
- Set the MODE selector to WIDE.
- Turn the AM RF GAIN control fully clockwise to MAX.
- Pull out the telescopic antenna to its full length and stand it vertically.
- Be sure that the SW-ANT selector located at the rear is set to ROD.

① **For the USA and Canadian model:** Set the POWER switch to ON.
For other countries: Set the RADIO switch to ON.

② Depress the SW button. The MW/SW frequency counter will be turned on.

③ Choose the desired band (1–29 MHz) with the SW BAND SELECTOR.

④ Turn the SW PRESELECTOR knob and set pointer of the SW preselector scale approximately to the band (MHz) being received, where noise is heard.

⑤ Turn the MW/SW TUNING DIAL slowly to tune in the desired station, observing the frequency counter display, seeing that the pointer of the TUNING/BATT INDICATOR swings to the right as far as possible.

⑥ Adjust the SW PRESELECTOR knob accurately so that the optimum reception can be obtained.

⑦ Adjust the volume and tone to your preference.

• If noise and interference occur, set the MODE selector to NARROW.

• When the receiving station signal is too strong and the sound is distorted turn the AM RF GAIN control counterclockwise until distortion-free sound can be obtained. If this control is turned counterclockwise for normal reception, the sound may not come on or be too low.

• If the reception is unsatisfactory with the telescopic antenna, connect an external antenna. For external antenna connection, refer to page 11.

• After tuning, to avoid excessive battery wear, press the AM FREQUENCY DISPLAY button. To turn on the frequency counter again, press this button.

• After using, turn the radio off as follows:

For the USA and Canadian model: Set the POWER switch to OFF.
For other countries: Set the RADIO switch to STANDBY.

Notes

• Owing to internal spurious signal reception (reception of the frequency generated by the built-in oscillators), the pointer of the TUNING/BATT INDICATOR deflects at the frequencies such as 10 MHz, 18.6 MHz, 20 MHz or 30 MHz and the reception of those frequencies may be difficult. The use of an external antenna will reduce the spurious signal reception.

• Be sure to adjust the SW PRESELECTOR knob for the desired band being received, though some noise will occur at a third ($\frac{1}{3}$), half ($\frac{1}{2}$) or twice ($2\times$) the desired frequency. Otherwise, reception of the desired station will be inadequate.

• When the SW BAND SELECTOR is set to 1 MHz, 1,000–1,600 kHz MW stations can be tuned in, but the sensitivity will be reduced. To obtain best MW reception, follow the operation of “MW RECEPTION” on page 9.

SSB/CW RECEPTION

The operating procedures for SSB and CW reception are the same as for ordinary SW reception, except for the following points.

• Set the MODE selector to USB or LSB/CW according to the signals to be received, instead of the WIDE or NARROW position.

• When the MODE selector is set to USB or LSB/CW, the figures of the frequency counter will be revised by 2 kHz to coincide the counter reading with the carrier frequency which is the nominal frequency of an SSB signal.

• When tuning the station, turn the MW/SW TUNING DIAL more slowly than you do for ordinary SW tuning.

EXTERNAL ANTENNA CONNECTION

In a steel-frame building, a mountainous area or at a distance from the transmitter, reception may be unsatisfactory. In that case, the use of an external antenna is recommended.

Notes

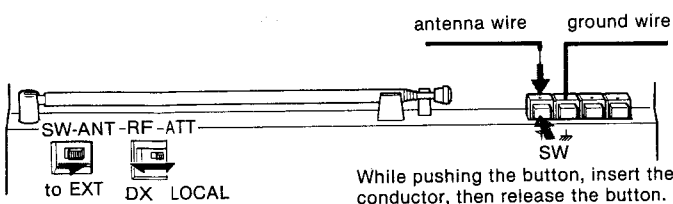
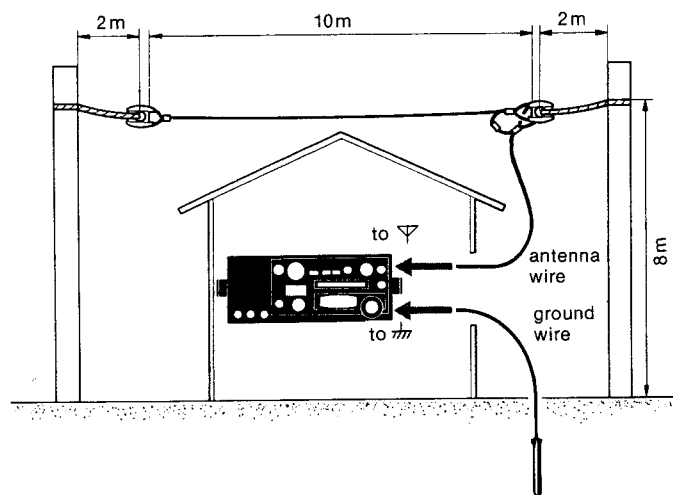
- The use of a suitable lightning arrester is recommended if the antenna is extended out-of-doors.
- To avoid the possibility of a fire, never connect the ground wire to a gas pipe.

FOR SW RECEPTION

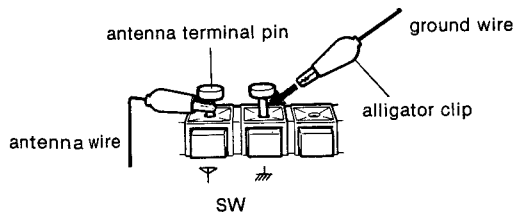
Connect any commercially available external antenna to the SW antenna terminals located at the rear as illustrated.

- In this case, set the SW-ANT selector located at the rear to EXT, and retract the telescopic antenna.
- Normally, set the RF ATT switch located at the rear to DX. If the sound is distorted while receiving a very strong signal, or if interference occurs, set it to LOCAL. Distortion or interference will then be reduced.

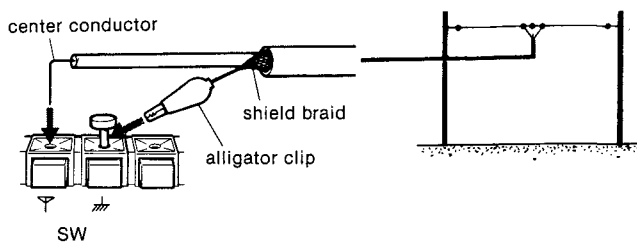
Antenna wire connection



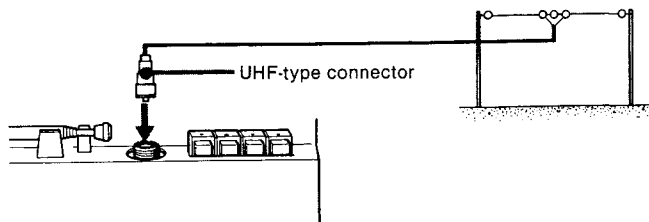
If the antenna wire is equipped with an alligator clip, use the supplied antenna terminal pins as shown.



75-ohm coaxial cable connection



If the coaxial cable is equipped with a UHF-type connector, connect it to the UHF-type connector at the rear of the set.

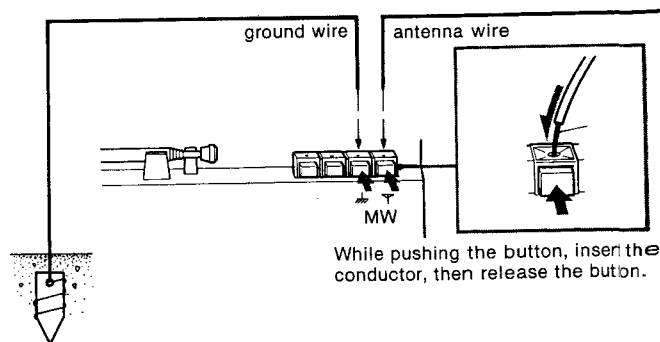


Note: If two external SW antennas are connected simultaneously to the SW antenna terminal and to the UHF-type connector, the sensitivity of the antennas will be reduced and noise may occur. Connect only one external antenna for SW reception.

FOR MW RECEPTION

Connect an antenna wire more than 5m (15 feet) long to the MW antenna terminals located at the rear. Extend the wire outdoors if possible.

The use of a ground wire will reduce hum and noise and provide better reception. Connect the end of the ground wire to the ground terminal, and the other end directly to a convenient earth ground.



ANTENNA AND GROUND SYSTEM

For SW reception

Ordinarily, the telescopic antenna is enough to pull in usable signals. However, the use of an external antenna will greatly improve the reception of weak signals and give more stable SW reception when the radio is located inside a building.

Ideally, the length of the antenna wire should be matched to the reception frequency. Although you will probably listen on many different frequencies, select the antenna length on the basis of the wavelength of the SW band that you listen to the most.

Refer to the following formula to determine the antenna length.

$$L \text{ (meters)} = 0.475 \lambda = \frac{143}{\text{frequency (MHz)}}$$

L (meters).....length of antenna wire in meters

λ wavelength

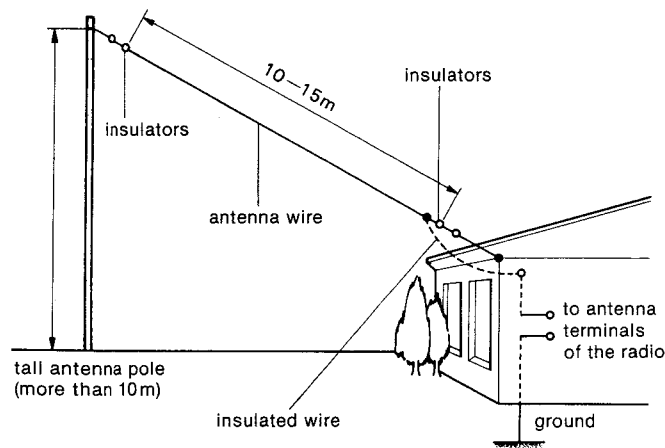
Extend the antenna wire outdoors as high as possible and prevent it from touching other metal or trees. Keep it far away from high-voltage power-transmission lines and noisy electrical machinery. Also, position the antenna at right angles to power lines, electrical wiring, or any other antennas.

Long wire antenna

This is the simplest one to build. You can string it between handy trees or the buildings around you.

The higher the antenna support, the more effective the antenna is for reception.

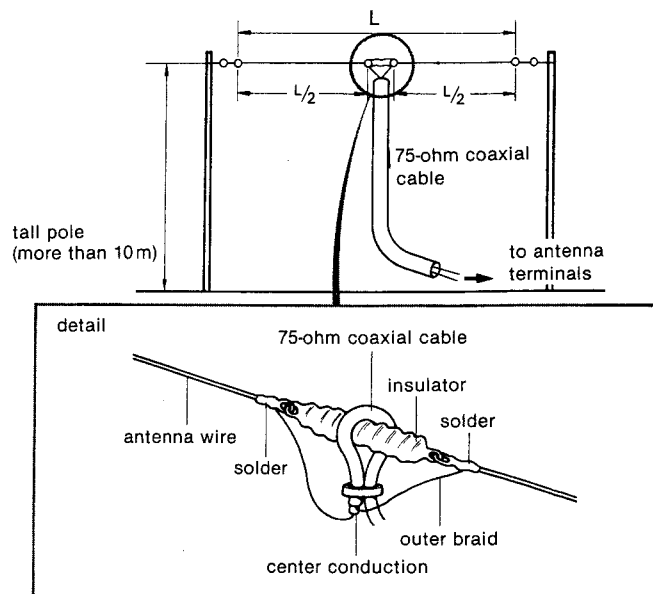
If you use bare wire for the antenna, you must insulate it where the antenna wire passes through the wall of building.



Doublet antenna

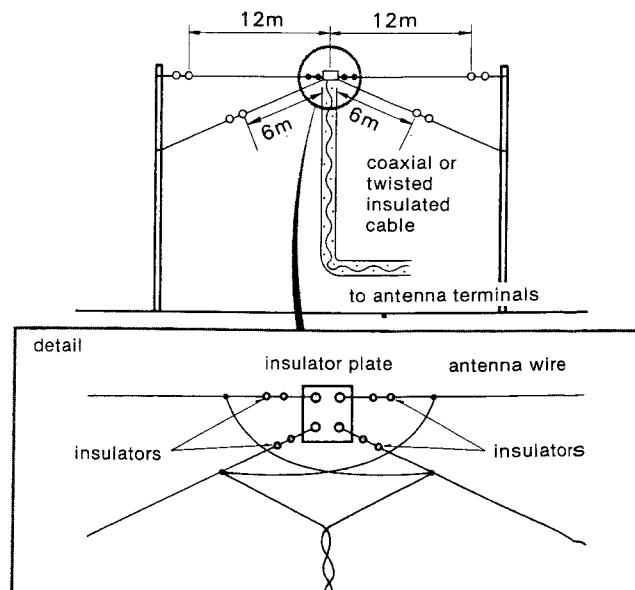
You can get comparatively good low-noise reception from this type antenna when the antenna is cut to one half wavelength at the signal frequency.

The antenna length can be obtained from the formula on this page. If the antenna length is tailored to the desired wavelength, very good reception can be obtained at the desired frequency, though the results will not be quite as good at other frequencies.



Twin doublet antenna (all wave antenna)

The twin doublet antenna shown below is the best one to cover the wide frequency range of SW reception. It is similar to the doublet just described, but you can get wider frequency coverage by use of the 2 elements. Typically, you can get good reception from 6 MHz to 17 MHz with the antenna shown below.

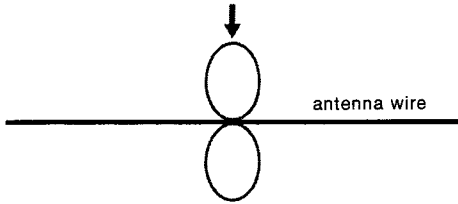


SPECIFICATIONS

Antenna directivity

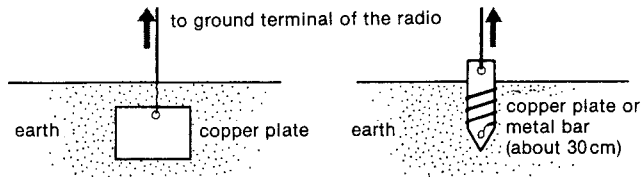
Ordinarily, the parallel doublet antenna picks up signals from both front and rear equally well. It has little response to signals traveling in a direction in line with the antenna axis.

Therefore, orient the antenna wire in the direction of the incoming signals to get the best reception. Refer to a Great Circle Map centered on or near the city in which you live to determine how to orient the antenna.



Grounding

For almost cases, there is no need to use a ground wire for SW reception. However, a ground connection will sometimes reduce noise and thereby provide better reception.



Semiconductors	Signal circuit: 4 ICs, 10 FETs, 34 transistors, 17 diodes Auxiliary circuit: 3 ICs, 23 transistors, 17 diodes
Circuit system	FM/MW: Superheterodyne SW: Dual conversion superheterodyne, using a crystal-controlled PLL synthesizer
Frequency range	FM: 87.5–108 MHz SW: 1.6–30 MHz (187.5–10 m) MW: 530–1,605 kHz (566–187 m)
SW sensitivity	–4 dB μ (0.63 μ V) at 1.6–30 MHz, S+N/N = 6 dB, 30% modulation, with external antenna, NARROW
Selectivity (MW/SW and SSB/CW)	

Mode Band width	MW/SW		SSB/CW
	WIDE	NARROW	
–6 dB	9 kHz	4 kHz	4 kHz
–60 dB	18.5 kHz	8.5 kHz	8.5 kHz

Antennas	FM: Telescopic antenna SW: Telescopic antenna External antenna terminals (50–75 ohms) UHF-type connector (50–75 ohms) MW: Built-in ferrite bar antenna External antenna terminals (low im- pedance)
Speaker	Approx. 10 cm (4 inches) dia.
Power output	1,000 mW (at 10% harmonic distortion) in dc operation
Input	Timer input jack (minijack)
Output	Recording output jack (minijack) output level 0.8 mV (–60 dB) output impedance 1 kilohm Earphone jack (minijack) for 8-ohm earphone Headphones jack (stereo binaural type jack) for 8-ohm impedance stereo or monaural headphones
Power requirements	Canadian model: 120 V ac, 50/60 Hz Other countries: 110, 120, 220 or 240 V ac adjustable, 50/60 Hz 9 V dc, six batteries size D (IEC designation R20) 12 V car battery with optional Sony car bat- tery cord DCC-120
Power consumption	USA model: 7 W ac Other countries: 9 W ac
Dimensions	Approx. 453 × 184 × 227 mm (w/h/d) (17 $\frac{7}{8}$ × 7 $\frac{3}{4}$ × 9 inches) incl. projecting parts and controls
Weight	Approx. 5.9 kg (13 lb) incl. batteries
Accessories supplied	AC power cord (1) Antenna terminal pins (4) Wave Hand Book (1) (for the USA model only)

* The figures in the specifications are the typical figures.

TROUBLE CHECKS

Optional accessories Car battery cord DCC-120
Headphones DR-7, DR-35
Earphone ME-20H
Connecting cord RK-69A (miniplug to mini-
plug, for connecting a tape recorder)

While the information given is true at the time of printing, small production changes in the course of our company's policy of improvement through research, and design might not necessarily be indicated in the specifications. We would ask you to check with your appointed Sony dealer if clarification on any point is required.

Your dealer may not handle some of the above listed optional accessories. Please ask the dealer for detailed information about the optional accessories available in your country.

Should any problem occur with the set, make the following simple tests to determine whether or not servicing is required. If the problem persists after you have made these tests, consult the nearest Sony dealer for further information.

Sound does not come on at all.

- The ac power cord is not connected (on ac operation).
- The batteries are exhausted.
- Incorrect polarity of batteries.
- Battery operation is attempted while the ac power cord or the car battery cord is connected to the set but not to the wall outlet or the cigarette lighter socket.
- The POWER switch (for the USA and Canadian model) or the RADIO switch (for other countries) is not set to ON.
- The VOLUME control is turned down completely.

No sound from the speaker.

- An earphone or headphones plug is connected to the set.

No sound from the earphone.

- Headphones are connected to the set.

Very weak or interrupted sound, or unsatisfactory reception.

- Weak batteries.
- Improper tuning.
- In MW or SW reception, the AM RF GAIN control is turned counterclockwise.
- Incorrect position of the SW-ANT selector in SW reception.
- Improper adjustment of the SW PRESELECTOR knob.
- Incorrect position of the RF ATT switch when using an external SW antenna.

No display on the frequency counter.

- The FM button is depressed.
- In MW or SW reception, press the AM FREQUENCY DISPLAY button.